

In re Patent Application of
BERNADO ET AL.
Serial No. 09/747,786
Filed: DECEMBER 22, 2000

In the Claims:

This listing of claims replaces all prior versions and listing of claims in the application.

Claims 1-8 (canceled).

9. (Previously Presented) A communication system comprising:

- a transmission channel;
- a signal source for providing a discrete signal;
- a chaotic modulator for modulating the discrete signal for transmitting over said transmission channel; and
- an incoherent discriminator for receiving the modulated discrete signal from said transmission channel.

10. (Previously Presented) A communication system according to Claim 9, wherein said incoherent discriminator comprises:

- a high-pass filter;
- a rectifier connected to an output of said high-pass filter; and
- a low-pass filter connected to an output of said rectifier.

11. (Previously Presented) A communication system according to Claim 10, wherein said incoherent discriminator further comprises a comparator connected to an output of said low-pass filter.

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12. (Previously Presented) A communication system according to Claim 9, wherein said incoherent discriminator is self-synchronizing.

13. (Previously Presented) A communication system according to Claim 9, wherein said signal source generates a low logic value signal having associated therewith a chaotic evolution corresponding to a complete Chua's attractor.

14. (Previously Presented) A communication system according to Claim 9, wherein said incoherent discriminator comprises:

a low-pass filter;

a null-threshold comparator connected to an output of said low-pass filter for providing a square-wave output signal; and

a divider connected an output of said comparator for scaling the square-wave output signal.

15. (Previously Presented) A communication system according to Claim 14, wherein said signal source generates a low logic value signal that is associated with a chaotic dynamics corresponding to a left-hand lobe of a Chua's attractor.

16. (Previously Presented) A communication system according to Claim 14, wherein said low-pass filter is a fourth order filter.

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17. (Previously Presented) A communication system comprising:

a digital signal source for providing a digital signal;

a chaotic modulator for modulating the digital signal for transmitting over a transmission channel; and

an incoherent discriminator for receiving the modulated digital signal from the transmission channel, said incoherent discriminator comprising

a high-pass filter,

a rectifier connected to an output of said high-pass filter, and

a low-pass filter connected to an output of said rectifier.

18. (Previously Presented) A communication system according to Claim 17, wherein said incoherent discriminator further comprises a comparator connected to an output of said low-pass filter.

19. (Previously Presented) A communication system according to Claim 17, wherein said incoherent discriminator is self-synchronizing.

20. (Previously Presented) A communication system according to Claim 17, wherein said digital signal source generates a low logic value signal having associated therewith a chaotic evolution corresponding to a complete Chua's attractor.

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21. (Previously Presented) A communication system comprising:

a digital signal source for providing a digital signal;

a chaotic modulator for modulating the digital signal for transmitting over a transmission channel; and

an incoherent discriminator for receiving the modulated digital signal, said incoherent discriminator comprising

a low-pass filter,

a null-threshold comparator connected to an output of said low-pass filter for providing a square-wave output signal, and

a divider connected an output of said comparator for scaling the square-wave output signal.

22. (Previously Presented) A communication system according to Claim 21, wherein said digital signal source generates a low logic value signal having associated therewith a chaotic evolution corresponding to a complete Chua's attractor.

23. (Previously Presented) A communication system according to Claim 21, wherein said digital signal source generates a low logic value that is associated with a chaotic dynamics corresponding to a left-hand lobe of a Chua's attractor.

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24. (Previously Presented) A communication system according to Claim 21, wherein said low-pass filter is a fourth order filter.

25. (Previously Presented) A method for transmitting a signal over a transmission channel, the method comprising:

- generating a discrete signal;
- modulating the discrete signal using a chaotic modulator for transmitting over the transmission channel; and
- receiving the modulated discrete signal from the transmission channel using an incoherent discriminator.

26. (Previously Presented) A method according to Claim 25, wherein receiving the modulated discrete signal comprises:

- filtering the modulated discrete signal using a high-pass filter;
- rectifying the filtered signal from the high-pass filter; and
- filtering the rectified signal from the high-pass filter using a low-pass filter.

27. (Previously Presented) A method according to Claim 26, further comprising using a comparator for a generating square wave signal from the filtered signal provided by the low-pass filter.

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28. (Previously Presented) A method according to Claim 25, wherein the incoherent discriminator is self-synchronizing.

29. (Previously Presented) A method according to Claim 25, wherein a signal source generates a low logic value signal that is associated with a chaotic dynamics corresponding to a left-hand lobe of a Chua's attractor.

30. (Previously Presented) A method according to Claim 25, further comprising:

filtering the modulated signal using a low-pass filter;

providing a square-wave output signal using a null-threshold comparator connected to an output of the low-pass filter; and

scaling the square-wave output signal using a divider connected an output of the comparator.

31. (Previously Presented) A method according to Claim 30, wherein the signal source generates a low logic value that is associated with a chaotic dynamics corresponding to a left-hand lobe of a Chua's attractor.

32. (Previously Presented) A method according to Claim 25, wherein the low-pass filter is a fourth order filter.